UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,378	04/30/2004	Ronald K. Maxwell	57640.010273	3377

34018 7590 01/15/2008

GREENBERG TRAURIG, LLP
77 WEST WACKER DRIVE
SUITE 2500
CHICAGO, IL 60601-1732

EXAMINER
ROST, ANDREW J

ART UNIT	PAPER NUMBER
3753	

MAIL DATE	DELIVERY MODE
01/15/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	CT
	10/709,378	MAXWELL ET AL.	
	Examiner	Art Unit	
	Andrew J. Rost	3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8,10-18,20 and 21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,10-18,20 and 21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/31/2007 has been entered.

2. This action is in response to the amendment filed 10/31/2007. Claims 1 and 4 have been amended. Claims 9, 19 and 22 have been canceled. Presently, claims 1-8, 10-18 and 20-21 are pending.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-8, 10-18 and 20-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 recites the limitation "wherein the seal membrane will collapse and move away from the damper blade only when suction is applied to the air chamber" in lines 7-8. It is unclear as to the support for this limitation in the originally filed specification. Specifically, the recitation of "***only*** a suction is applied". Claim 4 recites a similar limitation in lines 7-8.

5. Claims 1-8, 10-18 and 20-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention without undue experimentation.

Claim 1 recites the limitation "wherein the seal membrane will collapse and move away from the damper blade only when suction is applied to the air chamber" in lines 7-8. It is unclear as to how the seal membrane will move ***only*** when a suction is applied, i.e. the seal membrane will not move when any other forces are applied to the seal membrane. It is unclear as to what structure prevents the seal membrane from being pressed inwardly, and thereby away from the damper, from an external force (such as a maintenance personal performing maintenance on the seal membrane or damper while the suction cannot be applied). Claim 4 recites similar limitations in lines 7-8.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1, 3-5, 7, 8, 16-18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dreyer et al. (4,474,205).

Regarding claim 1, Dreyer et al. disclose a U-shaped flange (26) having an inner leg and outer leg (Figure 9, inner leg being attached by acorn nut 45 and outer leg being attached by nut 48), the U-shaped flange forming a closed loop (the U-shaped flange forms a closure with the addition of the seal membrane) and a flexible seal membrane (27) attached to the legs forming an air chamber (col. 3, lines 11-13) with the flexible seal membrane being operated by a source of vacuum and air pressure (not shown, col. 3, lines 59-61) that operate the flexible seal membrane through T-nozzle (37) with the vacuum removing the air from the air chamber. Dreyer et al. do not expressly disclose the seal membrane to be able to retain the sealing effect when pressure differential is unable to be maintained across the seal membrane. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select a material having a high resiliency or a desired thickness so that the seal membrane is held in an expanded position so that a seal is formed in the case a portion of the seal membrane is damaged, since it has been held to be within the general skill

of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

In regards to claim 3, Dreyer et al. disclose a blade guide (28 in Fig. 9) adjacent the inner leg of the U-shaped flange and the inner leg of the U-shaped flange is longer than the outer leg of the U-shaped flange.

Regarding claims 4 and 21, Dreyer et al. disclose a frame (10), a blade plate (16), a seal cartridge (26) having an air chamber (col. 3, lines 12-13), and a series of bolts (34) and nuts (36) that are used to connect the seal cartridge frame (26) to the main frame (10) with the seal membrane being inflated and deflated by use of a vacuum and air pressure sources (not shown, col. 3, lines 59-61) that connect to the interior of the air chamber by T-nozzle (37) with the vacuum removing the air from the air chamber (this removal of air from the air chamber provides a negative air pressure differential across the seal membrane).

In regards to claim 5, Dreyer et al. discloses a blade guide (28 in Figure 9) attached to the seal cartridge so that no portion of the seal membrane extends past the blade guide when deflated.

In regards to claims 7 and 8, Dreyer et al. discloses a seal membrane attached to a U-shaped flange by two concentric rows of outwardly projecting, threaded studs (44 and 54) that are welded to frame (26) (Column 3, lines 13-17).

In regards to claims 16-18, Dreyer et al. discloses blade guide members that are welded inside frame (26) (Column 3, lines 23-26). The blade guide members are

located at the open end of the U-shaped flange and have a circular cross section with the outer circumference extending past the length of the inner leg (Figure 9).

8. Claims 2, 6, and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dreyer et al. in view of Clark et al. (3,178,779).

Dreyer et al. discloses a U-shaped flange, sealing member and bolts for attaching the flange to the main frame. Dreyer et al. does not disclose seal membrane guides. However, Clark et al. discloses seal membrane guides for protecting seal. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to place the seal membrane guides of Clark et al. inside the seal cartridge of Dreyer et al. in order to protect and prolong the service life of the seal membrane.

Clark et al. discloses an inner seal membrane guide, the tip of the inner seal on the right side of Figure 2, and an outer seal membrane guide, the tip of the inner seal on the left side of Figure 2. The seal membrane guides define a minimum radius for the seal membrane when deflated (Figure 2). The inner and outer seal membrane guides are located nearer the open end of the U-shaped flange (23) then the attachment members. The rounded tips of the inner seal have circular cross sections (Figure 2).

9. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dreyer et al. in view of Machine Design, "Fluoroelastomer extends pump applications".

Dreyer et al. discloses a seal membrane of a flexible, durable material, such as laminated fabric of heat resistant rubber, with wire or fabric reinforcement (Column 3,

lines 8-10). Dreyer does not disclose the use of fluoroelastic material. However, an article in Machine Design titled "Fluoroelastomer extends pump applications" discloses applications for fluoroelastomers include seals, valve liners, O-rings, and pump linings (paragraph 3, line 4) because fluoroelastomers are able to better withstand high temperatures and harsh chemicals than hydrocarbon-based rubber components. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use the fluoroelastomer of the Machine Design article in place of the rubber of Dreyer et al. in order to provide a wider temperature and chemical ranges for the seal membrane.

10. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dreyer et al. as applied to claims 10 and 11 above, and further in view of Ryder, Jr. (4,381,985).

Dreyer et al. discloses a seal membrane of a flexible, durable material, such as laminated fabric of heat resistant rubber, with wire or fabric reinforcement (Column 3, lines 8-10). Dreyer et al. does not disclose the nature of the wire or fabric reinforcement. However, Ryder, Jr. discloses a corrosion-resistant springy, porous capillary material, such as webs of woven or non-woven synthetic fiber (e.g., polyester non-woven webs) (Column 1 , lines 59-62) for constructing a membrane. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use corrosion-resistant fabric reinforcement like polyester of Ryder, Jr. as the fabric reinforcement of Dreyer et al. in order to prolong the life of the seal membrane.

11. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dreyer et al. in view of Luffel et al. (6,622,366).

Dreyer et al. discloses a connecting member (31) for raising and lowering the seal cartridge when the damper is raised or lowered (Column 4, lines 28-31). Dreyer et al. does not disclose the use of a hook to raise or lower the seal cartridge. However, Luffel et al. discloses the use of hooks and screws for the purpose of fastening objects together. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to substitute the connecting rods (or bolts) of Dreyer et al. with the hooks of Luffel et al. in order to provide a quicker connecting means between the seal cartridge and blade damper.

Response to Arguments

12. Applicant's arguments with respect to claims 1-8, 10-18 and 20-21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Connor (4,724,863) discloses a blade damper having a sealing member in which the seal member is normally pressed outward to provide a seal when ambient pressure is supplied in the seal member. Beck (3,504,883) discloses a sealing means for a blade damper constructed of a material that is expanded when subject to an ambient pressure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew J. Rost whose telephone number is 571-272-2711. The examiner can normally be reached on 7:00 - 4:30 M-Th and 7:00 - 12:00 Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Huson can be reached on 571-272-4887. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AJR, AJR 10 JANUARY 2008

JOHN RIVELL
PRIMARY EXAMINER
ART UNIT 347